

# EXHIBIT 10

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE LLC,  
Petitioner,

v.

SINGULAR COMPUTING LLC,  
Patent Owner.

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Case No. TBD  
Patent No. 10,416,961

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**DECLARATION OF RICHARD GOODIN**

Google Exhibit 1003 Google v. Singular
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56. Additionally, the claims expressly cover *non-deterministic* implementations, *i.e.*, execution units that produce different results for different executions of the same operation on the same input. All of the challenged independent claims recite “repeated execution” of the operation on “that same input” and taking a “statistical mean” (which a POSA would have understood is an average) of the output numerical values. *See* claims 1, 10, and 21. As I explain in paragraphs 57-60 below, a POSA would have understood that the claims expressly cover non-deterministic embodiments via the recited “statistical mean” provisions.

57. The specification says some embodiments (*e.g.*, analog embodiments) are non-deterministic. In discussing the prior art, the patent describes prior art “[a]rray processors” that “use analog representations of numbers and analog circuits to perform computations,” and states that the “**SCAMP**” computer “is such a machine.” ’961 patent, 3:63-65. The patent notes that “[t]hese machines...introduce noise into their computations, so the computations are not repeatable.” ’961 patent, 3:65-4:2. Later, when describing its embodiments, the patent states that “[s]ome embodiments of the present invention may include analog representations and processing methods.” ’961 patent, 14:23-24. The patent states that “[s]uch methods, often called Analog methods, can be used to perform LPHDR arithmetic in the broad range of architectures we have discussed, of which SIMD is one example,” and then states that “[a]n example of an *analog*